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STRATEGIC PLANNING FOR COUNTERFORCE OPTIONS

BY

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Strategic Planning for Counterforce Options Nancy Rose Palumbo

In the words of Bernard Brodie:

Strategic thinking, or "theory" if one prefers, is nothing if not pragmatic. Strategy is a "how to do it" study, a guide to accomplishing something and doing it efficiently. As in many other branches of politics, the question that matters in strategy is: "Will the idea work? More important, will it be likely to work under special circumstances under which it will next be tested?"1

The first objective of this report is to explore the disparity between United States declaratory policy and actual force capabilities. This report will secondarily pose questions and propose decision-making criteria which are essential to ensure successful future nuclear strategic force employment and planning.

Policy: Declaratory vs Operational or Strategy vs Force Mismatch

This report is primarily concerned with the gap in U.S. declaratory and operational (or action) policy as it applies to current counterforce targeting problems. It is important to distinguish between declaratory policy and actual operational policies to appreciate the complexities of the debate and to resolve questions concerning future force planning.

Further elaboration on this point is illustrated by using former Secretary of Defense Robert McNamara's public shift away from counterforce targeting as an example of how

there is sometimes a discrepancy between policy and actual implementation. A concise synopsis of the problem follows:

Given the public confusion and misunderstanding of U.S. deterrent policy over the years, it is best here to distinguish between declaratory policy and action policy. This distinction, first articulated publicly by Paul Nitze, is crucial to any intelligent understanding of the debate over the pros and cons of specific strategies. During the McNamara era, U.S. declaratory policy did gradually move away from "counterforce" options toward a posture of assured destruction. But on the level of war plans, the action policy of the U.S. was never revised to reflect this shift in declaratory policy. Secretary of Defense McNamara never had any counterforce options removed from U.S. strategic war plans (technically known And as new counterforce targets appeared, new as SIOP). allocated to these targets. American weapons were successors Operationally, McNamara and his incorporated assured destruction as an action policy.²

An irreconcilable discrepancy between the declaratory policy and the action policy may be calamitous to future deterrent capability and credibility. How can one have confidence that a strategy will work when the tools to make it work are the wrong ones or are not available at the appropriate time? Thus, the nature of the credibility of a nuclear deterrent posture hinges directly on this issue of policy and capability. This is a warning which has been given by many other strategic thinkers.³

The argument is continued with the opinion that much of the current nuclear controversy stems from a fundamental absence of consensus over strategic doctrine and, at the highest levels, over grand strategy in U.S. policy-making circles. This problem has been recurrent since the 1950's:

Most leading U.S. defense intellectuals (with some exceptions) preferred to focus upon pre-war deterrence,

and to abstain from investigation of putative operational strategy... they neglected the logical, and practical political, connection between likely net prowess in war and the quality of pre-war deterrent effect.⁴

Many consider strategic thinking at the policy-making level to be done in an unsystematic manner. Critics of the defense planning mechanism claim that the United States defense bureaucracy, civilian and uniformed, in many cases, is not very professional in its consideration of the strategic functions of military forces. Major shortfalls occur in the inexperience of top civilian political appointees and in inter-service rivalries and parochialism.⁵

Criticism goes further to include decisions concerning nuclear strategy and policy-making ". . . a major problem in assessing U.S. plans for protracted nuclear war is that no firm decisions have evidently been made concerning the length of time such a war might be prolonged and the strategic forces and C³ requirements of such plans." It has been further argued that the United States defense community suffers from an inability to address relevant issues of war aims to include the actual conduct of war, the political purpose of war, and war termination.

In contrast to the above arguments the Reagan Administration has made a continuous effort over the years to call attention to and provide more specific direction for defense organization and planning. In July 1985 the President's Blue Ribbon Commission on Defense Management was assigned the task to make recommendations as to how to improve the

effectiveness and stability of U.S. resource allocation for defense. In the Interim Report of February 28, 1986, the commission further identified the problem, while making recommendations for a new process for national security planning and budgeting. Briefly, the commission admitted that there is a great need for improvement in the way U.S. policy-makers think through and tie together U.S. security objectives, what is spent to achieve them, and what purchasing decisions are made. The entire undertaking for the nation's defense requires more and better long-range planning. The fulfillment of their recommendations will involve concerted action by the professional military, the civilian leadership of the Department of Defense, the President, and the Congress.8

The final report, of June 1986, concludes that the President must take the initiative in implementing the recommendations of the committee and that:

He must challenge the Secretary of Defense, the Chairman of the Joint Chiefs of Staff, and the nation's key military leaders to engage in creating a national military strategy that can become the basis of America's protection into the next century. . . . Prepared with this kind of a national military strategy, the President can provide Congress a blueprint for national security, and a constructive partnership can be formed to carry it out-through a five-year national defense program that logically follows. 9

The Reagan Administration is also responsible for publishing the <u>National Security Strategy of the United States</u>, in January 1987. This document goes a long way in reacting to the criticisms expressed concerning lack of

unity at the top levels of the government bureaucracy and in defining the national security posture with regard to the maintenance of the United States strategic deterrent.

The ultimate results of this reassessment of the national security program should become apparent in future nuclear force planning and development. And this effort to arrive at specific objectives on a national level should ultimately have a positive effect on better matching policy to force structure and thereby achieving more credibility through better control and consistency of the planning process. William Van Cleave best summarizes the current posture with respect to the gap between official strategic doctrine and actual force capabilities:

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own view, the gap between our doctrine and objectives, on the one hand, and our capabilities and progress, on the other, is a very serious problem. do we do with a surviving force, given Soviet attack capabilities, that would in all probability be much closer to McNamara's canonical 400-equivalent-megaton "assured destruction" capability than to the force required to meet present targeting objectives? What does having such a force mean for deterrence and for strategic or crisis stability, or for extended deterrence and foreign policy? While having a strategic plan and doctrine beyond current capabilities is useful for force planning purposes, what is the relevance to the actual capabilities and realistic options that would exist should deterrence fail at the strategic nuclear level. Would we be forced willy-nilly, to abandon our declared strategic doctrine? Or are there ways--less than optimal, or even adequate, to be sure--to accomplish a useful portion of the current objectives even with relatively inferior forces. 10

There will always exist a gap between the programming and policy planning requirements and the actual force structure. Program planning is a tool used to project what

will be needed or desired for future force consideration. And, by its very nature must be out of synchronization with the actual force structure. Actual war plans may not be based upon declaratory statements made in support of future planning requirements but are instead designed to best utilize the actual forces deployed.

With the above understanding, that the programming and force/strategy mismatch is the <u>norm</u>, it is still a valuable exercise to examine where the mismatch lies to further enable the strategic planners and policy-makers to evaluate what requirements are lacking to proceed in developing forces to meet the desired political and military outcome.

United States Declaratory Policy and Force Limitations

The current declaratory policy may be described to be one of counterforce and countercontrol preeminence with recovery denial. Colin Gray states that:

. . . the forces purchased may lack the quantity and quality necessary for the plans drafted to implement the policy guidance to offer prospective military success with confidence. Today for example, U.S. strategic policy guidance posits requirements that are far removed from contemporary technical feasibility. 11

And, Van Cleave contends that "... the mainstream of strategic thought in the United States today endorses a policy of deterrence with strong elements of counterforce, control, and damage limitation." 12

A framework set up by Brian Dailey will be used. To facilitate the analysis of the discrepancies that currently exist between policy and force structure. For purposes of capability analysis, Dailey breaks down the United States Strategic Nuclear Forces (SNFs) into four categories of General Systems Capabilities. These categories consist of:

- Command, Control and Communication (C³);
- Force Survivability;

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- System Reliability and Alert Rate Posture; and
- Capability of SNFs to Penetrate Soviet Defenses. 13

Command, Control and Communication (C^3)

Current declaratory policy, NSDM-242, PD-59 and NSDD-13, require a secure C3 network as well as a high degree of Strategic Nuclear Force (SNF) survivability in order for the United States to be able to fight and prevail in protracted nuclear conflict. C3 is specifically needed to warn of an impending attack, this would require both strategic and tactical warning systems capable of detecting an attack. There must also be adequate system security to ensure that this warning can be relayed to the appropriate decision-makers. The decision-makers in turn must be able to direct and redirect the targeting required. finally essential to allow the decision-makers communicate war terms to facilitate intra-war deterrence and war termination. 14

The United States C³ capability, however, is highly vulnerable to conventional sabotage, nuclear targeting, nuclear effects, and current and possible future Soviet ASAT Even though the Reagan Administration is capability. spending over 18 billion on C3 modernization there are several questions which remain with regard to whether or not these programs will fulfill the requirements set out in NSDD-13. Several questions which remain regarding the vulnerability of some aspects of the communications network are: Is there adequate redundancy to ensure communication? Are there enough ground, air, and space assets? Have the command and control links been effectively hardened against Have adequate measures been taken to protect C3 nodes and communications links against sabotage? Since SSBNs are the most survivable leg of the Triad, is there redundancy and adequate communication available for reliable communication during nuclear war? 15

There will never be enough money available to make these systems one-hundred percent foolproof. However, recognizing that there will always be differences in requirements versus capability in the programming world, for planning purposes, it is still critical to the future process to see clearly where potential failings lie.

Force Survivability

Force survivability has been a vital requirement of United States nuclear policy since its inception, however it was not until the mid-1970's that policy-makers became serious with regard to weapons survivability due to Soviet advances in counterforce HTK capability. The Soviet advances in counterforce targeting and high yield weapons currently thought to be able to kill U.S. ICBM silos have dramatically altered the survivability of our ICBM force. Currently the United States is left with little ability to destroy the Soviet hardened ICBM silos and command structures. Another critical question is whether U.S. launch facilities are hardened against EMP? The development of the MX and the various new basing modes are a partial answer to this dilemma.

Bomber force survivability depends on several factors: launch, take-off, and penetration. A major limitation is found in the time-urgent responsiveness requirements. The bombers have a HTK capability but take 10-12 hours to reach their target. Communication problems could affect the redirect capabilities of the bombers. The SSBN force is the most survivable yet the C-3 and C-4 have almost no HTK capability. However, the Trident D-5 program should provide a significant improvement in U.S. HTK capability.

Currently the United States lacks the ability to effectively threaten the Soviet ICBM force which constitutes their primary, and most threatening, warfighting capabilities. The Soviet ICBM force is of major concern

because the United States does not have adequate defenses to effectively withstand an attack on its own ICBM launch facilities. So, even though missile survivability is a major reason for U.S. inability to retaliate against Soviet land-based systems, there is still the fundamental lack of HTK potential to neutralize Soviet ICBMs. Even if American ICBMs and LCCs could survive a Soviet first strike, U.S. ability to reciprocate in kind against Soviet ICBMs is problematical due to Soviet silo hardness and the use of mobile launchers.*

System Reliability and Alert Rate Posture

Policy requires reliable systems with high states of readiness to exist so that we may retaliate with quickness, flexibility, and selectivity. Yet, can the system really work? A major question is ICBM launch reliability. The process is extremely long and complicated with an even longer time involved in retargeting. This results in slowing down delivery time which in turn diminishes the required prompt delivery, resulting in a slow retaliatory capability. The greatest drawback found in the SSBN force is in their low-yield, CEP, and less than optimal retargetability. Retargeting (i.e., reprogramming warheads)

^{*}According to Dailey ". . . the first alteration in the targeting strategy will probably be made by moving away from targeting Soviet ICBMs in hardened silos, launch control centers, and other hardened facilities." 16

is once again a time-consuming process and flexibility is limited due to the communications problems involved. On a SLBM ". . . if a broad range of target sets do not exist in the fire control computer (due to limited memory or a scenario planning error) then it can hinder an effective limited and flexible option policy."

With regard to the bomber forces the current alert posture is directly related to the reliability of the SAC commander taking heed and launching if the warning is given. A prevalent criticism of system reliability, according to Dailey, is that ". . . while a reasonable system reliability and a declared effective alert posture exists it all hinges on the ability and willingness of the SAC commander to react when the alarm sounds."

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Capability of SNFs to Penetrate Soviet Defenses

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In this category is the assumption that the systems are capable of penetrating Soviet defenses in order to deliver weapons. Of primary importance here is the bombers' ability to penetrate the Soviets highly redundant and mobile air defense system. Also, one must take into consideration the Soviets extensive civil and passive defense programs. Other considerations include the hardening of political/military and C² centers and the super hardening of important military targets such as ICBM silos, etc. Alternative defensive measures used extensively by the Soviets include deception and camouflage. These methods, in turn, result in doubt and

contribute to the uncertainty of the location of true targets. 19

Furthermore, in evaluating the effectiveness of any Soviet ABM system, it should be remembered that the Soviets may have to expect only a limited U.S. response after a surprise attack. It is highly probable that attacks on U.S. C³ might cause U.S. retaliation to be ragged and uncoordinated, making it much easier for the ABM system to handle.²⁰

From the above comparisons it would appear that there is indeed a significant disparity to be found in the declaratory policy and current force structure. "In all four categories of General Systems Capabilities the United States has marginal or lacks completely in its ability to fulfill doctrinal requirements." This gives the appearance that the United States lacks the capability to effectively match and carry out the objectives of the declared doctrine as outlined in PD-59 and NSDD-13.

Making Strategy: Some Points for Rational Decision Making

We now turn to answering the counterforce question in terms of the future of strategic deterrence as a credible policy, after having looked at the current and projected force structures and summarized the current declaratory policy of the United States with regard to the nuclear strategy. "One of the principle reasons for determining strategic objectives is to provide guidance for force modernization and improvement—to identify what needs to be done."22

William Van Cleave and Roger Barnett, in an article written in 1974, deal with the subject of strategic adaptability in relation to the renewed debate over counterforce targeting during the Schlesinger period. They present several questions which need to be answered in order to come to a consensus as to what is the best course of action to take in force planning, with particular interest in an improved counterforce strategy.²³

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The following is an amalgamation and synthesis of the questions posed by Van Cleave and Barnett with answers provided by Gray, found in a book written in 1976. Gray, a firm supporter of counterforce targeting, answers the question of what criteria a good strategic posture should follow.²⁴ Gray's criteria (astonishingly similar to Van Cleave and Barnett's questions) are extremely relevant to today's debate and are therefore provided as a synthesis of both sets of questions and answers to be used in determining where to go with the nuclear dilemma. The following criteria will be examined: deterrence value, deterrence failure, escalation control, counterforce targeting, the extent of counterforce capability, force structure, and finally, what we want to deter.

Deterrence Value

Will the adjustments proposed mean that we will be more or less able to deter various threats and to negate the effectiveness of threats to the United States and its allies? The United States strategic policy must be unmistakably deterring.

Y. Harkabi gives three conditions for deterrence: communication, credibility, and rationality. He further lists the following three elements of deterrence which need to be satisfied to ensure the maintenance of nuclear deterrence through a second strike capability: credibility, intention, and capability and intention combined.^{25*}

Credibility depends upon the clear understanding of what the objectives are that one wishes to achieve and that one has the capability to carry out the plan. Credibility can be achieved through building a force structure which can successfully meet the needs of the following criteria: the capability, i.e., the appropriate weapons; the means of delivery; the invulnerability or survivability of weapons which is achieved through concealment and secrecy, dispersal, preparedness, hardening, mobility and number; the

^{*}Albert Wohlstetter listed eight possible ingredients for deterrence in his 1957 article, "The Delicate Balance of Terror." These are: credibility; steady-state peacetime systems; active defense; passive defense; penetration of opponent's active defense; command, control, and communications; penetration of opponent's passive defense; coordinated targeting. 26

invulnerability of command and control systems; and civil defense. The intention must be clear that certain events will result in carrying out the threatened intent. This should include a clear understanding of the importance of the threatened intent as well as a clear understanding of the threatener's determination. The final element is the combination of the capability and the intent to sustain a credible deterrent posture.²⁷

Deterrence Failure

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Does deterrence, if it fails initially, also have to fail totally? To avoid the prospect of total annihilation the preferred strategy should offer a wide range of limited use options which in turn also match the principle options of the adversary.

The essential question concerns the possibility of deescalation. The answer rests on the ability to fulfill the
following criteria: the ability of one side to communicate
its intentions to the other; the ability of one side to be
convincing and credible to the other side; a willingness of
one side to believe the other's intentions are sincere; the
ability to send a message that secure reserve retaliation
strategic systems remain and will be used in the event that
de-escalation actions are ignored.

Subsequent attacks using only conventional weapons (with or without declaratory policies) may signal de-escalation or simply a need to save nuclear assets for situations in which conventional means have failed. If adversaries agree on certain measures as verification of de-escalation (such as standing down strategic forces), mutual nuclear deterrence (as it existed prior to the war) may be difficult to reestablish. "Finally, the United States also requires sufficient residual capability to provide leverage for early war termination, and to avoid coercion in a post-conflict world."²⁸

Escalation Control

Are the adjustments to policy more likely to increase or decrease our chances for controlling escalation in the event of war? A good strategic policy should offer some prospect for the limitation of damage, either by making provision for intra-war deterrence and for war termination short of inventory exhaustion or by the removal of many civilians from a hostage condition.

Counterforce Targeting

Do we wish to be more or less able to discriminate between military targets and civilian ones, to attack militarily-relevant targets selectively without the necessity of widespread urban and population destruction? The targeting of counterforce vice countervalue targets is most valuable in the political realm. Targeting should be of such scale and character as to preclude any temptations abroad to explore political coercive possibilities.

Targeting policy must be supported by sufficient dedicated intelligence assets focused on potential targets. Additionally the targeting policy should be adjusted to account for reloads, mobiles, and other key unknowns. Flexible targeting or response targeting requires reload/refire or a reconstitution capability. A survivable strategic reserve coupled with a flexible targeting system reduces the attacker's confidence in the outcome of his attack and provides a solid basis on which to propose war termination options.

Some issues peripheral to U.S. targeting may drive future targeting policies. One needs to consider the use of multiple other ways to change the correlation of forces, reduce the Soviet clearcut counterforce targeting options thereby frustrating their potential responses.

Extent of Counterforce Capability

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To what extent do we want a counterforce capability? In other words, how accurate and effective do we want our counter-force posture to be? It should look the equal, at least, of the strategic posture of any rival state given a reasonable net assessment of relative strategic strength. The United States should seek to minimize collateral damage through more accurate lower yield weapons.

 ${\sf C}^3$ and the ability to positively control assets and thereby support targeting can be a key to war termination efforts. Enduring ${\sf C}^3$ reduces attack assessment uncertainty

and can send a clear signal that one has a broader range of attack options available with which to put the opponent's key assets at risk.

Force Structure

Do we wish to improve it principally by changes in targeting plans, or improve it still further by changes in the physical capabilities of our forces? An improved counterforce posture should not be intended, by its scale and character, to exacerbate political rivalries. A good posture should serve its functions without contributing to what are known as arms race and crisis instabilities. A good posture should be capable of being held in a high state of alert. "Our strategic forces and the associated targeting policy must, by any calculation, be perceived as making nuclear warfare a totally unacceptable and unrewarding proposition for the Soviet leadership." 29

Better targeting policy probably requires more numbers and varieties of forces, and different sophistication of forces; more mobile, more accurate, smaller yields, non-nuclear in cases where targeting objectives (Zero CEP) can be met with different weapons. This would not only change the correlation of forces, but would reduce Soviet incentives for massive response by increasing the uncertainty of the outcome.

What Do We Want to Deter?

"Deterrence is the most fundamental element of our defense policy and the cornerstone of our alliance relationships." Deterrence must not only prevent the Soviet Union from launching an attack (either conventional or nuclear) on U.S. cities but also extend to the protection of our allies and other global interests. What does deterrence have to do with arms control? Should arms control lend itself to inspection by national technical means of verification? Multiple warheads and land-mobile ICBMs are examples of technologies that are not easily inspected.

The tendency has been to try to isolate "deterrence" from usefulness of nuclear forces, from flexibility, "warfighting," denial of an adversary's objectives, and damage limitation. . . . Since deterrence is some product of capability and credibility, the capability to use nuclear forces in a rational and nonapocalyptic fashion, when compared with the credibility of massive strikes in response to nonmassive attacks, and when the adversary has his own massive capabilities in reserve, may become a better-and infinitely safer--deterrent. 31

The final message is that flexibility in the application of strategic weapons thus supports the requirement of adaptability in strategic policy. Deterrence depends on the ability of the United States to display evidence that it is willing to use military force, when necessary, to defend its vital interests. It is also obvious that "... war fighting forces need to have a utility that exceeds beyond their value for the conduct of preemptive first strike options." Deterrence can best be achieved if our defense posture makes the assessment of war outcome by the Soviets,

or any other adversary, so dangerous and uncertain as to remove any possible incentive for initiating conflict."33

Future Force Planning Strategies

It is essential to remember that the main objective in developing a strategy is to keep the national security uppermost in one's perspective. And, it is through the United States deterrent strategy that these interests can best be preserved. "While deterrence requires capabilities across the entire spectrum of conflict, its essential foundation is provided by our strategic nuclear forces and the doctrine which supports them."34 Thus, "... the primary objective of the United States in either building up or building down nuclear arms should be to protect and defend U.S. values and institutions by avoiding nuclear war with the Soviet Union."35 The point is to avoid war, however, in the event that deterrence should fail it is the responsibility of the United States Government to have a viable war plan.

Therefore, to best facilitate the development of future policy and employment planning the issues:

. . . are more a matter of the general direction to take in strategic policy—the direction that will guide research and development, force acquisition and deployment, the planning of options for employment, and, finally, declaratory policy, since it is clearly a purpose of the Defense Secretary to have declaratory policy somewhat more consistent with actual policies than it may have been in the past. 36

The practical application of this recommendation comes into play through the following three elements of procurement, development and the employment of forces. These three elements are integral to the planning and programming of the defense budget and will be discussed below in their most general terms.

Procurement and Requirement Plans

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Procurement or What do we Need? What to buy? Too often the strategy is developed around what weapons systems are already slated for purchase and development.

No matter how rigorously decision-makers try to develop new strategies they are to a degree bound by the necessity of using military hardware already deployed. . . . In assessing program decisions involving nuclear weapons, it is essential to ask if the political implications of a new tool may not be more important than the technical military capabilities. 37

Thus, even in nuclear matters, the bureaucratic process involved in program procurement decisions is not always conducive to arriving at the best possible decisions due to the various pressures found in the bureaucratic bargaining process. Efforts have been made on several occasions to try to refine the decision-making process to include the centralization and modernization of the process.

There have been several significant changes made in Defense Department purchasing over the years. The first occurred in 1961 when McNamara instituted the Planning, Programming and Budgeting System (PPBS) in an effort to better organize the defense budget or rather coordinate the

defense budget with the defense requirements of the United States. 38* More recently, the Goldwater-Nichols Act, enacted into Public Law 99-433 on 1 October 1986, outlines the reorganization of the Joint Chiefs of Staff specifically states that the JCS should not be involved in defense acquisitions and that the service secretaries should sole responsibility. The National Defense have Authorization Act for FY 1987, enacted into Public Law 99-661 on 14 November 1986, goes further and created the position of Undersecretary of Defense for Acquisitions who is responsible for the supervision of acquisitions, the establishment of acquisition policy, the maintenance of the defense industrial base and directing the various service secretaries on matters of acquisitions.

Force Development and Capability Plans

Once the procurement plans have been put into the system the development of specific war (operation or contingency) plans utilizing the various capabilities of the weapon systems are initiated. The Joint Strategic Capabilities Plan (JSCP) is prepared by the Joint Chiefs of Staff and

The PPBS as described in the <u>Joint Staff Officers Guide</u>, 1986 is "... the framework for the resource allocation decision process that is driven by the plans, programs, and budget decisions made by the DOD leadership, the President, and the Congress. It is not designed or intended to supplant or override the organizational and functional management responsibilities and structure of DOD. 39

delivered to the various CINCs as guidance and promised forces for their use and from which the CINCs write their war plans. The SIOP would be an example of war plan development.⁴⁰

Employment and Mobilization Plans

"Mobilization plans must build a bridge between requirements and capabilities in time of war or other national emergency, by assembling, organizing, and otherwise bringing necessary assets to an acceptable state of readiness." However, the eventual employment of weapons systems generally ends up being significantly different from the force development plan. According to Desmond Ball:

The situations in which the use of nuclear weapons is most likely to be initiated are ones which lie outside the purview of the contingency plans in the SIOP. Further, the first use of the SIOP forces is likely to follow a period of large-scale military action in which there has already been substantial use of tactical nuclear weapons, significant military and collateral casualties, and some degradation of command and control systems. The dynamics of the escalation process, once set in motion, are likely to foreclose the possibility of employing most of the LNOs (limited nuclear options) and SAOs (selective attack options) in the SIOP. 42

Regardless of the bleak outcome implied by the above statement there is still value in pursuing long-range planning. One needs to continuously assess the strategic situation in terms of current forces and potential threats. One further needs to take into consideration current declaratory policy and the various restraints placed upon the defense planning and acquisitions process. Another

element critical to the planning process is the understanding and appreciation of the political and military ramifications of a specific plan or strategy. The goal is to successfully devise a plan that will best safeguard the national security of the United States.

The United States has a contingency plan, a force structure, and an understanding of the discrepancies which exist within them. There still exists a problem however. Strategic nuclear thinking revolves around ideas based upon other ideas. And before we become too comfortable with this concept let us look to history for an example of what can go wrong even though we had an apparently viable PLAN in hand.

Few if any "war plans" in history have had any authority beyond the first clash of battle . . . strategic planning must have as its guiding purposes not adverse missile payload drawdowns and the like imposed on an enemy, but political defeats averted and gains recovered. Given that combat is threatened and waged for the ends of policy, whatever those ends may be, it must follow that war plans indicate more or less competently how military power would be applied to achieve the goals set by policy.⁴³

With this in mind, one way to further test the reliability of a given war plan is through programmed scenarios or wargaming. A sample scenario development problem is provided as the Appendix and is included for further elaboration on key questions posed in this report.

Appendix

Scenario Building and Wargaming

According to Frederick the Great, "... what good is experience if it is not directed by reflection.... War must be a study and peace an exercise ... "44 Presuming that the United States is willing to take Frederick's suggestion to heart, there is no better exercise with which to gain the "experience" essential for further "reflection" than through wargaming. Working up a realistic wargame scenario may provide valuable insight and further provide the means for strategic analysts to discern the real needs and considerations of force planning: "... wargaming can be used simultaneously as an educational tool and an analytic process that can help us to prepare for the deterrence of war and to fight better if deterrence fails."45

The development of <u>this</u> particular scenario was driven by questions posed throughout this report with regard to counterforce targeting and its enhancement (or lack thereof) of the United States deterrent posture.

For purposes of this exercise let us assume that a general nuclear war may be broken down into four distinct phases: deterrence failure (that point in time when deterrence fails and war is declared); the escalation phase (in the case of a general nuclear war that point in time when nuclear weapons are employed); intra-war deterrence

(covering the period of time during which the decision has been made to continue the war without the further use of nuclear weapons); and, finally war termination (the time when a cease-fire is called and negotiations for a settlement are pursued).

The following scenario will be built into four sections, to correspond with each of the above four phases. After the initial scene is set, a discussion of concepts relating to each new phase will precede the next step in the scenario. This will hopefully illustrate the rationale for scene development.

The time is the mid-1990's. Since the 1980's the United States has proceeded with an energetic SNF modernization program, and all those systems currently under development are now deployed and operational. The Soviets were busy as well in the 1980's, and their force posture includes enhanced conventional and nuclear capabilities consistent with projections. Strategic defenses, on both sides, did not develop as rapidly as anticipated and will not be taken into consideration.

Deterrence Failure

The most important question, and the whole purpose for the existence of the strategic nuclear forces, is to provide a credible deterrent in order to avoid war with the Soviet Union. Traditional methods of ensuring the credibility of a strategy include: improving capabilities; conducting training and exercises, and maintaining strong and consistent declaratory policy. Improvements in force structure, modernization, readiness and sustainability not only improve capability but obviously reinforce the credibility of our armed forces by sending a clear signal that the United States is strongly committed to maintaining viable operational capabilities, and that it is willing to pay the required price to do so. The declared national security policies—to preserve U.S. vital interests at home and abroad, are indeed the cornerstone of the strategy of deterrence.

It can be argued that since the United States has not been directly involved in a military conflict with the Soviet Union, traditional methods for enhancing credibility to our deterrent posture must be effective. We do not know, however, exactly what combination of actions and forces has actually deterred, or whether it is deterrence that has prevented war.* Perhaps these traditional means of enhancing credibility are primarily peacetime measures. During a crisis situation or war, other signals may be necessary.

^{*}In fact, one might observe that, depending on the criteria which one utilizes, there are presently 15 to 35 wars being pursued around the world, many at the behest of the Soviet Union.

In order to explore the possibilities the scenario must involve escalation from peace, through a crisis situation to a wartime footing. Assume that the conflict erupts in the Far East.

Escalation Strategies

Escalation is promised by the current U.S. declaratory policy. What levels of escalation are possible once involved in a conventional war? Escalation can be measured on vertical, horizontal and time axes. The wargame should investigate the control of escalation, to include the elements of armed conflict, as well as political, economic, ideological and psychological points of escalation.

In this scenario the Soviet Union has decided to escalate to the first use of a limited nuclear countermilitary strike on a U.S. allied target (outside U.S. homeland). The United States follows with a countermilitary strike against the Soviet Far Eastern Homeland and various naval forces worldwide.

Intra-war Deterrence

Intra-war deterrence may be signaled during the period in a war when both sides assess the situation, and signal resolve through political and military initiatives. Once at war these signals have to be different than in peacetime. Some possibilities may be: continued threats backed by forces clearly capable of carrying out their mission;

and, the use of "tripwire" forces to further demonstrate resolve. A long lead time possibility might include the infiltration of strident dissident movements that would disrupt Soviet LOC's and internal structure and implied U.S. ability to activate this activity.

Other more dangerous signals might be sent to play "chicken." Threatening "automatic" responses, hence raising the stakes for crossing over the line, or, burning bridges (e.g., making a full commitment that signals that there is no turning back from objectives—demonstrated irrationality). Finally, the United States could offer one last clear chance for the Soviets to back out.

A cease-fire follows escalation in this scenario and the Soviets, seeing themselves in the more advantageous position, try to seize the political high ground and insist that the United States accept terms which include a stand down in Europe. The Soviets further demand additional constraints on U.S. military activities including the creation of Soviet SSBN sanctuaries. The terms are unacceptable to the United States. Intra-war deterrence fails. Both the United States and the Soviet Union absorb major counterforce homeland strikes.

War Termination

Is it possible to end conflict after a limited nuclear war? Perhaps the vertical escalation to general nuclear war

is not necessarily automatic. What conditions must be met to improve the chances of termination of the conflict at the lowest level of the escalation ladder?

First, as depicted in the scenario, the use of nuclear weapons was perceived, or rather understood, by all parties as "limited" and not a deliberate act to move up the escalation ladder.* Second, the key element is the ability of each side to communicate its intent to keep the use of limited (counterforce) and nuclear weapons terminate operations without endangering each other's cardinal values (countervalue targets). Third, termination of nuclear operations must not be perceived by the Soviets as an attempt to weaken their defensive posture while buying time to regenerate forces for subsequent nuclear strikes.

In the scenario, counterforce strikes have been carried out against each other's homeland, and a second cease-fire is agreed upon. The United States perceives the Soviets as having a distinct military advantage in Europe. The Soviets present termination conditions more demanding than those offered during the first cease-fire. Fearful of a second nuclear strike against a now seriously weakened West, the United States accedes to the Soviet proposal, and yields

^{*}Of course, there are Soviet analysts that would never accept the possibility of the Soviet Union ever acceding to a limited war scenario.

West Germany, Denmark, the Benelux countries and Norway to the Soviet Union.

The "West" loses the war. Is it possible? What further questions must be asked, with respect to future force structure and planning, to prevent the unthinkable?

Scenario Generated Questions and Answers

The United States lost the war. Was this due to the types of weapons employed? Was it their application? What conditions have changed that the United States had not taken into consideration for future force planning? Was the targeting policy at fault? Why was there little or no apparent damping of the Soviet war effort? The war could not be settled at the lowest level of limited nuclear options and had to move up the escalation ladder to striking the Soviet homeland. Why? The war was controlled—but how controlled? Did the Soviets really win—did the United States really lose? If so, by how much? Does the United States even understand the situation and the Soviets well enough to answer these questions?

Force Planning

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What is the preferred long-range direction for U.S. force posture development? The United States strategic and conventional force modernization programs should be expanded so as to provide the United States with a considerably more

flexible posture into the 1990's. <u>Improved and more survivable conventional capabilities may provide non-nuclear options</u> in response to nuclear first use. Many of the advances being made in targeting technology lend themselves to the use of conventional weapons to strike Soviet high value targets, i.e., command centers, etc. Having and utilizing such capability even <u>after</u> nuclear use may signal an intent to <u>de-escalate</u> and return the conflict to a lower level. Increased conventional capabilities might also be useful in limiting damage to the United States or its allies in the event of a nuclear war.

Conventional force improvements may also facilitate war termination by providing conventional options to: first, strike nuclear weapons and their means of delivery, thereby altering the correlation of forces; second, enhancing the long-war option and thus escalating with time instead of vertically, and; third, enhancing horizontal escalation options. Strategic offensive force improvements may add to the U.S. ability to terminate war by ensuring that surviving forces are capable of imposing potentially unacceptable costs on further military actions after nuclear exchange. Strategic defenses reduce the effectiveness of strike forces, raise the uncertainty of the attacker in achieving war aims, and provide some foundation from which to negotiate war termination on more favorable grounds.

New Concepts of Operations

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What, if any new concepts of operations should emerge as postures change over the next 20 years? The United States should develop the capability to direct conventional attacks against high leverage targets in the USSR prior to nuclear warfare. Furthermore, a capability should also be developed for continuing to attack Soviet counterforce capabilities, throughout the nuclear phase of a war and during the follow-on conventional and termination phases. Failsafe provisions for the positive control of nuclear weapons during the termination phase of war should be developed, as it may be necessary to demonstrate control during negotiations.

United States should develop an increased The conventional capability to attack nuclear weapons at sea and ashore, as well as the capability to reload and reprovision SSBNs and Naval forces with SLCMs. The United States should also be working toward upgrading its peacetime readiness alert capability along with a viable counterforce capability which may further deter Soviet massive attacks. capabilities via readiness may reduce the Soviets confidence in the outcome of their actions and provide a firm basis from which to pursue de-escalation and war termination.

Current strategic ASW capability may be inadequate. The United States needs to develop a reliable and effective means with which to kill Soviet SSBNs especially in the

aftermath of initial nuclear strikes. Damage Limitation as a concept of operations needs to be seriously addressed.*

New concepts of operation, such as those suggested above, coupled with improved conventional capabilities have the potential to complicate the Soviet planning requirements, raise their level of uncertainty, and encourage Soviet participation in war termination proceedings.

Targeting Changes

What possible changes to strategic nuclear targeting policy seem worth further investigation? As previously commented on by Dailey, a targeting policy which requires attacking the Soviet leadership must be supportable by acquiring weapons capable of performing the task, as well as developing appropriate tactics. Although the counterleadership focus of U.S. targeting seems feasible only for a "first use" scenario, there is value in a U.S. declaratory policy which continues to stress U.S. resolve in targeting leadership facilities.

To achieve a more precise targeting capability, the U.S. should continue to develop counterforce contingency options using new weapons systems, i.e., the small ICBM and the D-5 SLBM.

^{*}SDI goes a long way in addressing the problems of defeating unseen weapons.

Controlled Limited Nuclear War

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Is it possible to end armed conflict after limited nuclear use, but prior to an all-out attack? To further elaborate on the question, consider whether it is possible to end armed conflict after the initial use of nuclear weapons, if the situation is such that it is in the interest of the adversaries to do so? Could the limited use of nuclear weapons instead lead to further limited use of nuclear weapons, still short of an all-out attack, if, by their use, a country perceives that an advantageous or even a "less worse" condition may be attained?

Perhaps a limited option would seem possible if strikes are limited, and perceived by the other side as limited. damage assessment and viable C3 capabilities are critical for obtaining battle damage assessments, removing ambiguity, and providing both sides with the flexibility and control to keep responses limited and to avoid further use of nuclear options. On the other hand, while a limit is logically possible, and presumably desirable it may be very difficult to grasp in the real world. A large number of preconditions must be satisfied: observable mutually perceived desire to limit; correlation of forces and outcomes; perceived ability to preserve national values; available options; etc. For example both sides must find some point at which consideration of status quo, available

options, and lack of desire to take further risks preclude further operations.

Intra-war Deterrence or Cease-fire

Can a nuclear cease-fire occur as an action separate from the termination of the war? The desirability of such a cease-fire would depend on the conventional balance, the remaining nuclear balance, and the targets at risk balance. For example, although an agreement to a nuclear cease-fire might be achieved, as long as the armed conflict continues the probability of a violation is high. The agreement to a nuclear cease-fire could very well have been based on the desire to recoup and regenerate rather than on the desire to de-escalate. In which case (depending on the aforementioned balances) a nuclear cease-fire might not be desirable even if achievable. If, however, a nuclear cease-fire is achieved, the longer the conventional war continues, the greater the risk of the nuclear exchange resuming.

War Termination

Is war termination a zero-sum or non-zero-sum game? Can the war be fought with a zero-sum policy and yet be settled in a non-zero-sum fashion or vice versa?

War termination is perhaps one of the most politically and emotionally volatile of subjects. To the American mind the very thought of preparation for victory is somehow a

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less than honorable undertaking.* The tragedy of the Vietnam conflict in particular was that the United States did not approach the war with the primary goal of victory. "The fact that the United States has been quite remarkably short of visible success in the conduct of military operations since 1945 has reinforced an unwilling-ness to think operationally and politically about nuclear war." It is the underlying assumption of this report that if you do not think that you can win and do not prepare to win you will in all probability lose!

Secretary Streets Streets Secretary Secretary Secretary

The objective of deterrence is to avoid war. However, should war occur the top priority should be to stop it.

"And since escalation of conventional war is the most likely path to nuclear war, war termination procedures should cover the full spectrum of conflict."

Two basic approaches to war termination, to be further discussed here are: the zero-sum approach and the non-zero-sum approach. In terms of nuclear war, there are those who believe that a nuclear war can never be won in any meaningful way, and that it can only be a matter of degree of loss to both sides, i.e., some wars may be more catastrophic than others. If the goal is to end the

^{*&}quot;. . . American political culture cannot accommodate the idea that the United States can, and occasionally should, wage a war for goals that are even controversial in terms of enduring American ideas of justice."46

conflict without extracting a loss from the adversary (i.e., return to the status quo ante) it is a non-zero-sum game. President Reagan states that: ". . . a nuclear war cannot be won and must never be fought." This approach can, therefore, be viewed as the non-zero-sum approach—there can be no winners. Yet, the strategic modernization program is clearly designed to return the balance of forces back in the favor of the United States with regard to warfighting capability. It is designed to provide the United States with the capability, should deterrence fail, to effectively wage a controlled and limited nuclear exchange with the goal of early war termination.

On the other hand, if the United States considers its gains to be Soviet losses, and the nature of the conflict is to obtain objectives which imply losses to the opposing side, then the United States has settled for a zero-sum solution.

The military doctrine of the Soviet Union, to the thinking of some analysts, implies that any war fought (regardless of weapons systems used) will be won. The Soviets believe that the outcome will in fact provide for a winner and a loser and the Soviet Union does not intend to be the loser.* Thus, the second approach offered is that of

^{*}According to Fritz Ermarth: "The Soviet system has, however, in the worst of times, clung tenaciously to the belief that nuclear war cannot--indeed, must not--be

a zero-sum approach to war--that there will be a winner and a loser. Steven Kime offers the following disturbing thought: "The danger is that Western leaders, in a crisis, might still be thinking in terms of deterrence when the Soviet leadership is calculating its moves in terms of warfighting and [victorious] war-ending."51

Implied throughout this report is the observation that through an improved counterforce targeting capability the United States is swinging more into line with Soviet views on warfighting. The hope is that through this capability the message will be clearly sent that if there is going to be a winner and a loser, the United States is preparing to prevail, i.e., come out on top.

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deprived of strategic meaning, i.e., some rational relationship to the interests of the state. It has insisted that, however awful, nuclear war must be survivable and some kind of meaningful victory attainable."⁵⁰

LIST OF REFERENCES

- 1. Brodie, B., <u>War and Politics</u>, MacMillan Publishing Co. Inc., 1983, p. 452.
- 2. Catudal, H.M., <u>Nuclear Deterrence</u>: <u>Does it Deter?</u> Mansell Publishing, Ltd., 1985, p. 149.
- 3. Harkabi, Y., <u>Nuclear War and Nuclear Peace</u>, Israel Program for Scientific Translations, 1966, p. 3.
- 4. Gray, C.S., "National Style in Strategy: The American Example," <u>International Security</u>, V. 6, N. 2, pp. 21-47, Fall 1981, p. 44.
- 5. Collins, J.M., <u>U.S. Defense Planning: A Critique</u>, Westview Press, 1982, p. 9.
- 6. Ball, D., <u>Issues in Strategic Nuclear Targeting: Target Selection and Rate of Fire</u>, Working Paper No. 58, Prepared for delivery at the 1982 Annual Meeting of the American Political Science Association, The Denver Hilton Hotel, 2-5 September 1982, p. 33.
- 7. Gray, C.S., <u>Nuclear Strategy and Strategic Planning</u>, Foreign Policy Research Institute, 1984, p. 19.
- 8. <u>National Security Planning and Budgeting</u>, a Report to the President by the President's Blue Ribbon Commission on Defense Management, June 1986, p. 1.
- 9. Ibid., p. 25.
- 10. Gray, Nuclear Strategy and Strategic Planning, p. xvi.
- 11. Ibid., p. 19.
- 12. Ibid., p. xiv.
- 13. Dailey, B.D., <u>Strategic Targeting: The Disparity of Doctrine and Capability</u>, University of Southern California, Defense and Strategic Studies Program Occasional Paper, No. 9, May 1983, pp. 16-47.
- 14. Ibid., p. 16.
- 15. Ibid., pp. 17-23.
- 16. Ibid., p. 36.
- 17. Ibid., p. 42.

- 18. Ibid., p. 43.
- 19. Ibid., p. 47.
- 20. Ibid.
- 21. Ibid., p. 51.
- 22. Gray, Nuclear Strategy and Strategic Planning, p. xvi.
- 23. Van Cleave, W.R., and Barnett, R.W., "Strategic Adaptability," Orbis, V. XVIII, N. 3, pp. 655-676, Fall 1974, pp. 659-660.
- 24. Gray, C.S., <u>The Soviet-American Arms Race</u>, Lexington Books, 1976, p. 139.
- 25. Harkabi, p. 10.
- 26. Wohlstetter, A., "The Delicate Balance of Terror," in <u>Problems of National Strategy</u>, pp. 34-58, edited by H.A. Kissinger, Praeger, 1965, p. 40.
- 27. Jordan, A.A., and Taylor, W.J. Jr., <u>American National Security: Policy and Process</u>, Johns Hopkins University Press, 1981, p. 226.
- 28. <u>National Security Strategy of the United States</u>, The White House, January 1987, p. 22.
- 29. Ibid., p. 21.
- 30. Ibid.
- 31. Gray, The Soviet-American Arms Race, p. 165.
- 32. Ibid.
- 33. National Security Strategy of the United States, p. 21.
- 34. Ibid.
- 35. Allison, G.T., Carnesale, A., and Nye, J.S., Jr., eds., Hawks, Doves, and Owls: An Agenda for Avoiding Nuclear War, W.W. Norton & Company, 1985, p. ix.
- 36. Van Cleave and Barnett, p. 659.
- 37. Jordan and Taylor, pp. 242-243.

- 38. Meehan, R.P., <u>Plans, Programs and the Defense Budget</u>, National Defense University Press, November 1985, p. 5-8.
- 39. <u>Joint Staff Officers Guide</u>, 1986, AFSC PUB 1, National Defense University, 1986, p. 5-10.
- 40. Collins, p. 158.
- 41. Ibid.

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- 42. Ball, D., "U.S. Strategic Forces: How Would They Be Used," <u>International Security</u>, V. 7, N. 3, pp. 31-60, Winter, 1982-1983, p. 44.
- 43. Gray, <u>Nuclear Strategy and Strategic Planning</u>, pp. 17-18.
- 44. Luvaas, J., ed. & trans., <u>Frederick the Great on the Art of War</u>, The Free Press, 1966, p. 47.
- 45. Tritten, J., and Masterson, K. Jr., "New Concepts in Global Wargaming," unpublished paper, 1987, p. 1.
- 46. Gray, "National Style in Strategy: The American Example," p. 26.
- 47. Gray, C.S., "Warfighting for Deterrence," in <u>National Security Strategy: Choices and Limits</u>, pp. 193-215, edited by S. Cimbala, Praeger, 1984, p. 200.
- 48. Allison, et al., p. 235.
- 49. National Security Strategy of the United States, p. 22.
- 50. Ermarth, F.W., "Contrasts in American and Soviet Thought," <u>International Security</u>, V. 3, N. 2, pp. 138-155, Fall 1978, p. 144.
- 51. Kime, S., "The Soviet View of War," The Officer's Handbook (A Soviet View), Soviet Military Thought Series of the USAF, Government Printing Office, 1977 [first published in Moscow, 1971], p. 65, cited by C.S. Gray, "Warfighting for Deterrence," in National Security Strategy: Choices and Limits, pp. 193-215, edited by S. Cimbala, Praeger, 1984, p. 201.

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